

7. Express as a single logarithm:

$$\log a - 2 \log b - \log c$$

A. $\log \frac{ac}{2b}$

B. $\log \frac{ac}{b^2}$

C. $\log \frac{a}{2bc}$

D. $\log \frac{a}{b^2c}$

$$\frac{a}{b^2c}$$

8. Express $3 \log a + \log b - \log c$ as a single logarithm.

A. $\log \left(\frac{a^3 b}{c} \right)$

$$\frac{a^3 b}{c}$$

B. $\log(a^3 + b - c)$

C. $3 \log \left(\frac{ab}{c} \right)$

D. $\log \left(\frac{3ab}{c} \right)$

9. Express $\log a - \log b + 2 \log c$ as a single logarithm.

A. $\log \frac{ac^2}{b}$

$$\log \frac{ac^2}{b}$$

B. $\log \frac{a}{bc^2}$

C. $\log \frac{ab}{2c}$

D. $\log \frac{a}{2bc}$

10. Express $\log_5 30$ using logarithms in base 4.

A. $\log_4 30 - \log_4 5$

$$\frac{\log_4 30}{\log_4 5}$$

B. $\frac{\log_4 5}{\log_4 30}$

$$\log_4 5$$

C. $\frac{\log_4 30}{\log_4 5}$

D. $\frac{\log_{30} 4}{\log_5 4}$

11. Write as a single log with base 2:

$$\log_2 x - \log_4 x$$

$$\log_2 x - \frac{\log_2 x}{\log_2 4}$$

$$\log_2 x - \frac{\log_2 x}{2}$$

$$\frac{1}{2} \log_2 x$$

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